

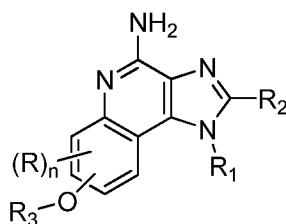
Amendments to the Claims

This listing of the claims will replace all prior versions, and listings, of claims in the present Application.

Listing of Claims

1.-3. (Canceled)

4. (Currently amended) A compound of the formula (II):



II

wherein:

R₃ is selected from the group consisting of

-Z-Y-R₄,

~~-Z-Y-X-Y-R₄~~,

-Z-R₅,

-Z-Het,

-Z-Het'-R₄, and

-Z-Het'-Y-R₄;

~~wherein R₃ comprises a nitrogen atom;~~

Z is selected from the group consisting of alkylene, alkenylene, and alkynylene, wherein alkylene, alkenylene, and alkynylene can be optionally interrupted with one or more -O- groups;

R is selected from the group consisting of alkyl, alkoxy, hydroxy, halogen, and trifluoromethyl;

n is 0 or 1;

R_1 is ~~selected from the group consisting of an alkyl group substituted with a sulfonamide, amide, urea, amine, or N-containing heterocycle;~~

~~$-R_{4a}$~~

~~$-X-R_{4a}$~~

~~$-X-Y-R_{4a}$, and~~

~~$-X-R_{5a}$;~~

R_2 is selected from the group consisting of alkyl, alkoxy, hydroxyalkyl, and alkoxyalkyl;

X is selected from the group consisting of alkylene, alkenylene, alkynylene, arylene, heteroarylene, and heterocyclylene wherein the alkylene, alkenylene, and alkynylene groups can be optionally interrupted ~~or terminated with arylene, heteroarylene, or heterocyclylene, and optionally interrupted~~ by one or more -O- groups;

Y is selected from the group consisting of

~~$-S(O)_{0-2}-$,~~

~~$-S(O)_2-N(R_8)-$,~~

~~$-C(R_6)-$,~~

~~$-C(R_6)-O-$,~~

~~$-O-C(R_6)-$,~~

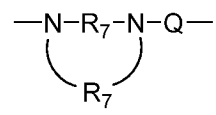
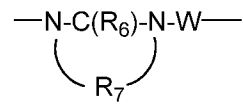
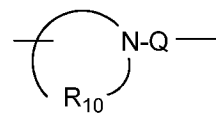
~~$-O-C(O)-O-$,~~

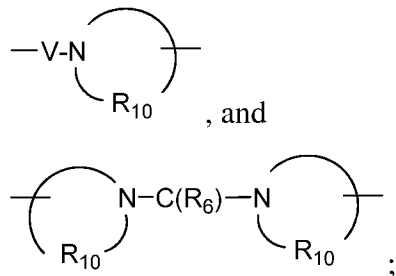
~~$-N(R_8)-Q-$,~~

~~$-C(R_6)-N(R_8)-$,~~

~~$-O-C(R_6)-N(R_8)-$,~~

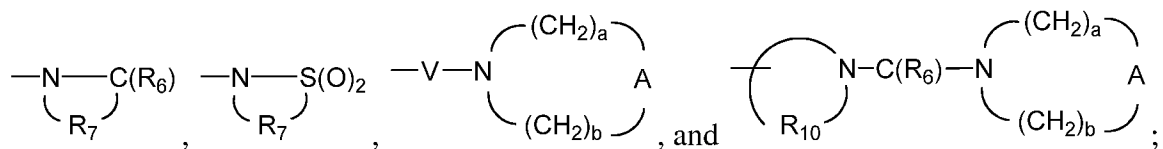
~~$-C(R_6)-N(OR_9)-$;~~





R₄ is selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, ~~alkylarylenyl~~, heteroaryl, heteroarylalkylenyl, ~~heteroaryloxyalkylenyl, alkylheteroarylenyl~~, and heterocyclyl wherein the alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, ~~alkylarylenyl~~, heteroaryl, heteroarylalkylenyl, ~~heteroaryloxyalkylenyl, alkylheteroarylenyl~~, and heterocyclyl groups can be unsubstituted or substituted by one or more substituents independently selected from the group consisting of alkyl, alkoxy, hydroxyalkyl, haloalkyl, haloalkoxy, halogen, nitro, hydroxy, mercapto, cyano, ~~aryl~~, ~~aryloxy, arylalkyleneoxy, heteroaryl, heteroaryloxy, heteroarylalkyleneoxy~~, heterocyclyl, amino, alkylamino, dialkylamino, (dialkylamino)alkyleneoxy, and in the case of alkyl, alkenyl, alkynyl, and heterocyclyl, oxo;

R₅ is selected from the group consisting of



R₆ is selected from the group consisting of =O and =S;

R₇ is C₂₋₇ alkylene;

R₈ is selected from the group consisting of hydrogen, alkyl, alkoxyalkylenyl, and arylalkylenyl;

R₉ is selected from the group consisting of hydrogen and alkyl;

R₁₀ is C₃₋₈ alkylene;

A is selected from the group consisting of -O-, -C(O)-, -S(O)₀₋₂-, and -N(R₄)-;

Het is heterocyclyl which can be unsubstituted or substituted by one or more substituents independently selected from the group consisting of alkyl, alkoxy, haloalkyl, haloalkoxy, halogen, nitro, hydroxy, hydroxyalkyl, mercapto, cyano, ~~aryloxy, arylalkyleneoxy, heteroaryloxy~~;

~~heteroarylalkyleneoxy, heterocycetyl, hydroxyalkyleneoxyalkylenyl,~~ amino, alkylamino, dialkylamino, (dialkylamino)alkyleneoxy, and oxo;

Het' is heterocyclene which can be unsubstituted or substituted by one or more substituents independently selected from the group consisting of alkyl, alkoxy, haloalkyl, haloalkoxy, halogen, nitro, hydroxy, hydroxyalkyl, mercapto, cyano, ~~aryloxy, arylalkyleneoxy, heteroaryloxy, heteroarylalkyleneoxy,~~ amino, alkylamino, dialkylamino, (dialkylamino)alkyleneoxy, and oxo;

Q is selected from the group consisting of a bond, $-C(R_6)-$, $-C(R_6)-C(R_6)-$, $-S(O)_2-$, $-C(R_6)-N(R_8)-W-$, $-S(O)_2-N(R_8)-$, and $-C(R_6)-O-$, ~~and~~ $-C(R_6)-N(OR_9)-$;

V is selected from the group consisting of $-C(R_6)-$, $-O-C(R_6)-$, $-N(R_8)-C(R_6)-$, and $-S(O)_2-$;

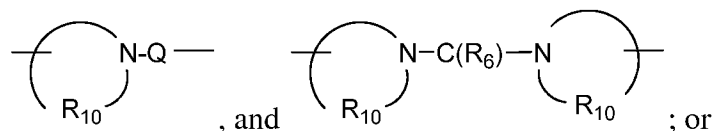
W is selected from the group consisting of a bond, $-C(O)-$, and $-S(O)_2-$;

and a and b are independently integers from 1 to 6 with the proviso that $a+b \leq 7$;

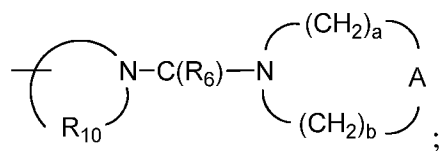
with the proviso that Z can also be a bond when:

R_3 is $-Z-Het$, $-Z-Het'-R_4$, or $-Z-Het'-Y-R_4$; or

R_3 is $-Z-Y-R_4$ ~~or~~ $-Z-Y-X-Y-R_4$, and Y is selected from $-S(O)_{0-2}-$, $-S(O)_2-N(R_8)-$, $-C(R_6)-$, $-C(R_6)-O-$, $-C(R_6)-N(R_8)-$,



R_3 is $-Z-R_5$ and R_5 is



or a pharmaceutically acceptable salt thereof.

5. (Currently amended) The compound or salt of claim 4 wherein R_3 is $-Z-Y-R_4$ ~~or~~ $-Z-Y-X-Y-R_4$.

6. (Currently amended) The compound or salt of claim 5 wherein Y is selected from the group consisting of

-S(O)₀₋₂-

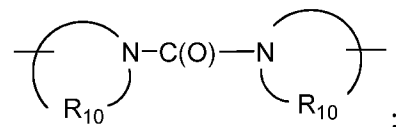
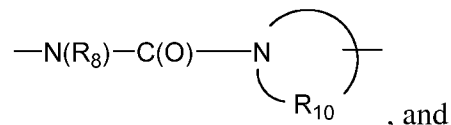
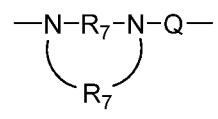
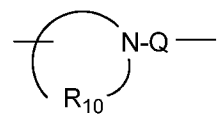
-C(O)-,

-C(O)-O-,

-O-C(O)-,

-N(R₈)-Q-,

-C(R₆)-N(R₈)-,



wherein Q is selected from the group consisting of a bond, -C(O)-, -C(O)-O-, -S(O)₂-, -C(R₆)-N(R₈)-W-, and -S(O)₂-N(R₈)-; W is selected from the group consisting of a bond, -C(O)-, and -S(O)₂-; R₆ is selected from the group consisting of =O or =S; R₈ is selected from the group consisting of hydrogen, C₁₋₄ alkyl, and alkoxyalkylenyl; and R₁₀ is selected from the group consisting of C₄₋₆ alkylene;

X is selected from the group consisting of alkylene, arylene, heterocyclylene, and heteroarylene, ~~and alkylene terminated with heteroarylene~~; and

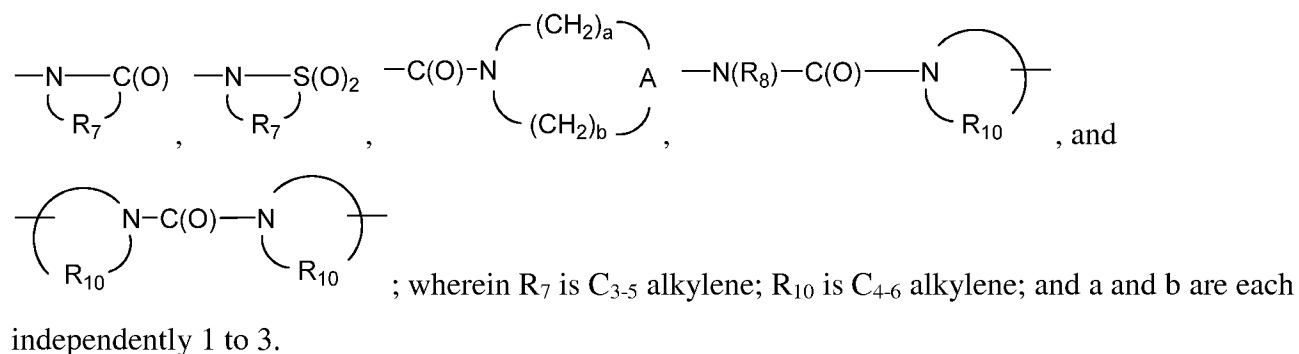
R₄ is selected from the group consisting of hydrogen, alkyl, alkenyl, aryl, arylalkylenyl, ~~alkylheteroarylenyl~~, heteroarylalkylenyl, aryloxyalkylenyl, heteroaryl, and heterocyclyl,

wherein alkyl is unsubstituted or substituted by one or more substituents selected from the group consisting of hydroxy, alkoxy, and heterocyclyl, and wherein arylalkylenyl and heteroarylalkylenyl are unsubstituted or substituted by one or more substituents selected from the

group consisting of alkyl, halogen, and alkoxy.

7. (Previously presented) The compound or salt of claim 4 wherein R_3 is $-Z-R_5$.

8. (Original) The compound or salt of claim 7 wherein R_5 is selected from the group consisting of



9. (Previously presented) The compound or salt of claim 4 wherein R_3 is $-Z\text{-Het}$, $-Z\text{-Het}'\text{-R}_4$, or $-Z\text{-Het}'\text{-Y-R}_4$.

10. (Original) The compound or salt of claim 9 wherein Z is a bond.

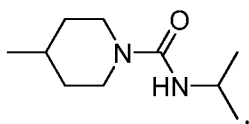
11. (Canceled)

12. (Previously presented) The compound or salt of claim 4 wherein R_3 is $-Z\text{-N(R}_8\text{)-C(R}_6\text{)-R}_4$.

13. (Currently amended) The compound or salt of claim 12 wherein R_8 is hydrogen, R_6 is $=O$, and R_4 is selected from the group consisting of alkyl, alkenyl, aryl, arylalkylenyl, aryloxyalkylenyl, and heteroaryl, wherein the alkyl, alkenyl, aryl, arylalkylenyl, aryloxyalkylenyl, and heteroaryl groups can be unsubstituted or substituted by one or more substituents selected from the group consisting of alkyl, ~~aryl~~, halogen, alkoxy, cyano, ~~arylalkyleneoxy~~, nitro, dialkylamino, ~~aryloxy~~, heterocyclyl, trifluoromethyl, trifluoromethoxy, and in the case of alkyl, oxo.

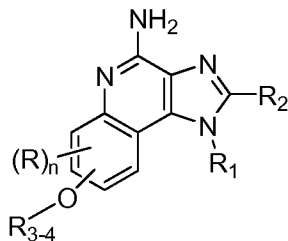
hydrogen or C₁₋₄ alkyl, R₁₀ is C₄₋₆ alkylene, W is a bond, -C(O)-, or -S(O)₂-, and R₄ is selected from the group consisting of alkyl, alkenyl, aryl, arylalkylenyl, aryloxyalkylenyl, and heteroaryl, wherein the alkyl, alkenyl, aryl, arylalkylenyl, aryloxyalkylenyl, and heteroaryl groups can be unsubstituted or substituted by one or more substituents selected from the group consisting of alkyl, aryl, halogen, alkoxy, cyano, arylalkyleneoxy, nitro, dialkylamino, aryloxy, heterocyclyl, trifluoromethyl, trifluoroethoxy, and in the case of alkyl, oxo.

49. (Previously presented) The compound or salt of claim 48 wherein R₃ is



50.-54. (Canceled)

55. (Currently amended) A compound of the formula (VI):



VI

wherein:

R₃₋₄ is selected from the group consisting of

-Z_a-C(R₆)-R₄,

-Z_a-C(R₆)-O-R₄,

-Z_a-C(R₆)-N(R₈)-R₄, and

-Z_a-C(R₆)-N $\begin{matrix} \text{---}(\text{CH}_2)_a\text{---} \\ \text{---}(\text{CH}_2)_b\text{---} \end{matrix}$ A' ;

wherein R₃₋₄ comprises a nitrogen atom;

Z_a is selected from the group consisting of a bond, alkylene, alkenylene, and alkynylene, wherein alkylene, alkenylene, and alkynylene can be optionally interrupted with one or more -O- groups;

R is selected from the group consisting of alkyl, alkoxy, hydroxy, halogen, and trifluoromethyl;

n is 0 or 1;

R_1 is selected from the group consisting of an alkyl group substituted with a sulfonamide, amide, urea, amine, or N-containing heterocycle;

- R_{4a}

-X- R_{4a}

-X-Y- R_{4a} , and

-X- R_5 ;

R_2 is selected from the group consisting of alkyl, alkoxy, hydroxyalkyl, and alkoxyalkyl;

X is selected from the group consisting of alkylene, alkenylene, alkynylene, arylene, heteroarylene, and heterocyclylene wherein the alkylene, alkenylene, and alkynylene groups can be optionally ~~interrupted or terminated with arylene, heteroarylene, or heterocyclylene, and optionally~~ interrupted by one or more -O- groups;

Y is selected from the group consisting of

-S(O)₀₋₂-,

-S(O)₂-N(R_8)-,

-C(R_6)-,

-C(R_6)-O-,

-O-C(R_6)-,

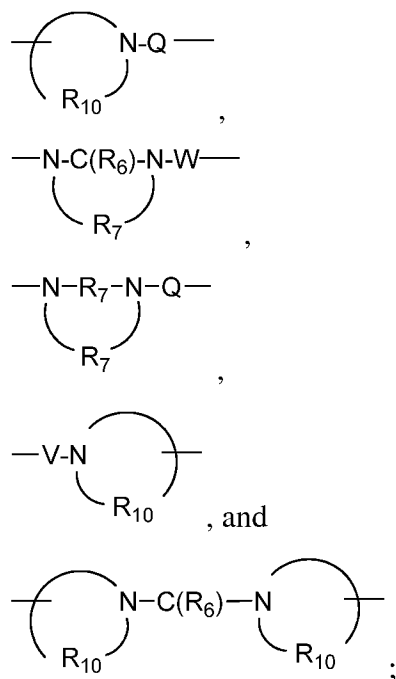
~~-O-C(O)-O-~~,

-N(R_8)-Q-,

-C(R_6)-N(R_8)-,

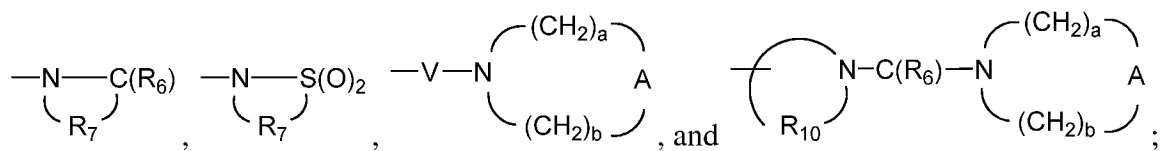
-O-C(R_6)-N(R_8)-,

~~-C(R_6)-N(OR₉)-~~,



R₄ is selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, ~~alkylarylenyl~~, heteroaryl, heteroarylalkylenyl, ~~heteroaryloxyalkylenyl, alkylheteroarylenyl~~, and heterocyclyl wherein the alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, ~~alkylarylenyl~~, heteroaryl, heteroarylalkylenyl, ~~heteroaryloxyalkylenyl, alkylheteroarylenyl~~, and heterocyclyl groups can be unsubstituted or substituted by one or more substituents independently selected from the group consisting of alkyl, alkoxy, hydroxyalkyl, haloalkyl, haloalkoxy, halogen, nitro, hydroxy, mercapto, cyano, ~~aryl~~, aryloxy, arylalkyleneoxy, ~~heteroaryl, heteroaryloxy, heteroarylalkyleneoxy~~, heterocyclyl, amino, alkylamino, dialkylamino, (dialkylamino)alkyleneoxy, and in the case of alkyl, alkenyl, alkynyl, and heterocyclyl, oxo;

R₅ is selected from the group consisting of



R₆ is selected from the group consisting of =O and =S;

R₇ is C₂₋₇ alkylene;

R_8 is selected from the group consisting of hydrogen, alkyl, alkoxyalkylenyl, and arylalkylenyl;

R_9 is selected from the group consisting of hydrogen and alkyl;

R_{10} is C_{3-8} alkylene;

A is selected from the group consisting of -O-, -C(O)-, -S(O)₀₋₂-, and -N(R_4)-;

A' is selected from the group consisting of -O-, -C(O)-, -S(O)₀₋₂-, -N(R_4)-, and -CH₂-;

Q is selected from the group consisting of a bond, -C(R_6)-, -C(R_6)-C(R_6)-, -S(O)₂-, -C(R_6)-N(R_8)-W-, -S(O)₂-N(R_8)-, -C(R_6)-O-, and -C(R_6)-N(OR₉)-;

V is selected from the group consisting of -C(R_6)-, -O-C(R_6)-, -N(R_8)-C(R_6)-, and -S(O)₂-;

W is selected from the group consisting of a bond, -C(O)-, and -S(O)₂-; and

a and b are independently integers from 1 to 6 with the proviso that $a + b \leq 7$;

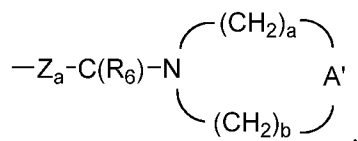
or a pharmaceutically acceptable salt thereof.

56. (Original) The compound or salt of claim 55 wherein R_{3-4} is $-Z_a-C(R_6)-R_4$.

57. (Previously presented) The compound or salt of claim 56 wherein R_6 is =O or =S, and R_4 is alkyl, aryl, or heterocyclyl.

58.-61. (Canceled)

62. (Original) The compound of salt of claim 55 wherein R_{3-4} is



63. (Previously presented) The compound of salt of claim 62 wherein R_6 is =O or =S, a and b are each independently 1 to 3, and A' is selected from the group consisting of -CH₂-, -S(O)₂-, and -O-.

64. (Previously presented) The compound or salt of claim 63 wherein Z_a is methylene, R_6 is =O, a is 1 or 2, b is 2, and A' is $-CH_2-$.

65. (Previously presented) The compound or salt of claim 63 wherein Z_a is methylene, R_6 is =O, a and b are each 2, and A' is $-CH_2-$.

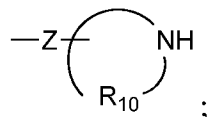
66. (Original) The compound or salt of claim 55 wherein Z_a is a bond or alkylene.

67.-74. (Canceled)

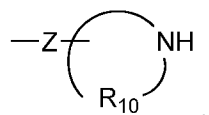
75. (Previously presented) The compound or salt of claim 4 wherein:

R_3 is selected from the group consisting of

$-Z-N(R_8)H-$ and



with the proviso that Z can also be a bond when R_3 is



76.-77. (Canceled)

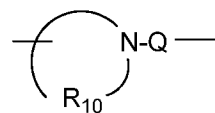
78. (Previously presented) The compound or salt of claim 4 wherein n is 0.

79. (Previously presented) The compound or salt of claim 4 wherein Het or Het' is selected from the group consisting of tetrahydropyranyl, tetrahydrofuranyl, 1,3-dioxolanyl, pyrrolidinyl, piperidinyl, morpholinyl, thiomorpholinyl, thiazolidinyl, aziridinyl, azepanyl, diazepanyl,

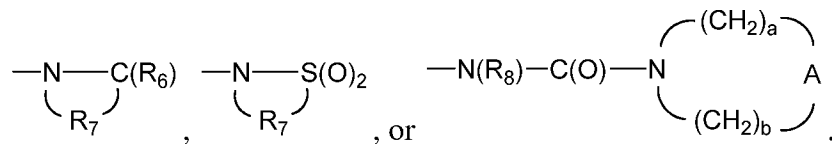
dihydroisoquinolin-(1H)-yl, octahydroisoquinolin-(1H)-yl, dihydroquinolin-(2H)-yl, octahydroquinolin-(2H)-yl, dihydro-1H-imidazolyl, and piperazinyl.

80. (Canceled)

81. (Previously presented) The compound or salt of claim 4 wherein R_1 is selected from the group consisting of alkyl, arylalkylenyl, aryloxyalkylenyl, hydroxyalkyl, dihydroxyalkyl, alkylsulfonylalkylenyl, $-X-Y-R_4$, $-X-R_5$, and heterocyclylalkylenyl, wherein the heterocyclyl of the heterocyclalkylenyl group is optionally substituted by one or more alkyl groups; wherein X is alkylene; Y is $-N(R_8)-C(O)-$, $-N(R_8)-S(O)_2-$, $-N(R_8)-C(O)-N(R_8)-$, or



; R_4 is alkyl, aryl, or heteroaryl; and R_5 is



82. (Previously presented) The compound or salt of claim 81 wherein R_1 is selected from the group consisting of 4-[(methylsulfonyl)amino]butyl, 2-methyl-2-[(methylsulfonyl)amino]propyl, 2-(acetylamino)-2-methylpropyl, 2-[[isopropylamino]carbonyl]amino-2-methylpropyl, 4-[[isopropylamino]carbonyl]amino butyl, 4-(1,1)-dioxidoisothiazolidin-2-yl)butyl, and tetrahydro-2H-pyran-4-ylmethyl.

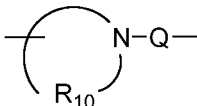
83. (Previously presented) The compound or salt of claim 4 wherein R_2 is selected from the group consisting of alkyl, alkoxyalkylenyl, and hydroxyalkylenyl.

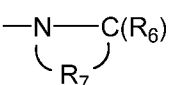
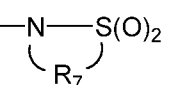
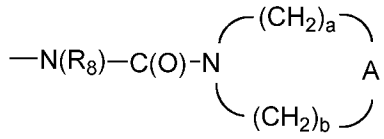
84. (Previously presented) The compound or salt of claim 83 wherein R_2 is selected from the group consisting of methyl, ethyl, propyl, butyl, ethoxymethyl, methoxymethyl, 2-methoxyethyl, hydroxymethyl, and 2-hydroxyethyl.

85. (Previously presented) The compound or salt of claim 4 wherein Z is alkylene.
86. (Previously presented) A pharmaceutical composition comprising a therapeutically effective amount of a compound or salt of claim 4 in combination with a pharmaceutically acceptable carrier.
87. (Withdrawn) A method of inducing cytokine biosynthesis in an animal comprising administering an effective amount of a compound or salt of claim 4 to the animal.
88. (Canceled)
89. (Withdrawn) A method of treating a viral disease in an animal comprising administering a therapeutically effective amount of a compound or salt of claim 4 to the animal.
90. (Withdrawn) A method of treating a neoplastic disease in an animal comprising administering a therapeutically effective amount of a compound or salt of claim 4 to the animal.

91.-93. (Canceled)

94. (Previously presented) The compound or salt of claim 55 wherein R₁ is selected from the group consisting of alkyl, arylalkylenyl, aryloxyalkylenyl, hydroxyalkyl, dihydroxyalkyl, alkylsulfonylalkylenyl, -X-Y-R₄, -X-R₅, and heterocyclyalkylenyl, wherein the heterocyclyl of the heterocyclylalkylenyl group is optionally substituted by one or more alkyl groups; wherein X is

alkylene; Y is -N(R₈)-C(O)-, -N(R₈)-S(O)₂-, -N(R₈)-C(O)-N(R₈)-, or ; R₄ is alkyl,

aryl, or heteroaryl; and R₅ is , , or .

95. (Previously presented) The compound or salt of claim 55 wherein R₂ is selected from the

group consisting of alkyl, alkoxyalkylenyl, and hydroxyalkylenyl.

96. (Previously presented) A pharmaceutical composition comprising a therapeutically effective amount of a compound or salt of claim 12 in combination with a pharmaceutically acceptable carrier.

97. (Previously presented) A pharmaceutical composition comprising a therapeutically effective amount of a compound or salt of claim 23 in combination with a pharmaceutically acceptable carrier.

98. (Previously presented) A pharmaceutical composition comprising a therapeutically effective amount of a compound or salt of claim 26 in combination with a pharmaceutically acceptable carrier.

99. (Previously presented) A pharmaceutical composition comprising a therapeutically effective amount of a compound or salt of claim 46 in combination with a pharmaceutically acceptable carrier.

100. (Previously presented) A pharmaceutical composition comprising a therapeutically effective amount of a compound or salt of claim 55 in combination with a pharmaceutically acceptable carrier.

101. (Previously presented) A pharmaceutical composition comprising a therapeutically effective amount of a compound or salt of claim 56 in combination with a pharmaceutically acceptable carrier.

102. (Previously presented) A pharmaceutical composition comprising a therapeutically effective amount of a compound or salt of claim 62 in combination with a pharmaceutically acceptable carrier.

103. (Previously presented) A pharmaceutical composition comprising a therapeutically effective amount of a compound or salt of claim 75 in combination with a pharmaceutically acceptable carrier.
104. (Withdrawn) A method of inducing cytokine biosynthesis in an animal comprising administering an effective amount of a compound or salt of claim 12 to the animal.
105. (Withdrawn) A method of inducing cytokine biosynthesis in an animal comprising administering an effective amount of a compound or salt of claim 23 to the animal.
106. (Withdrawn) A method of inducing cytokine biosynthesis in an animal comprising administering an effective amount of a compound or salt of claim 26 to the animal.
107. (Withdrawn) A method of inducing cytokine biosynthesis in an animal comprising administering an effective amount of a compound or salt of claim 46 to the animal.
108. (Withdrawn) A method of inducing cytokine biosynthesis in an animal comprising administering an effective amount of a compound or salt of claim 55 to the animal.
109. (Withdrawn) A method of inducing cytokine biosynthesis in an animal comprising administering an effective amount of a compound or salt of claim 62 to the animal.
110. (Withdrawn) A method, of treating a viral disease in an animal comprising administering a therapeutically effective amount of a compound or salt of claim 55 to the animal.
111. (Withdrawn) A method of treating a neoplastic disease in an animal comprising administering a therapeutically effective amount of a compound or salt of claim 55 to the animal.

112. (Previously presented) The compound of claim 4, wherein R₁ is an alkyl group substituted with alkylsulfonamide, acetamide, alkyl urea, alkylamine, or dioxidoisothiazilidin-2-yl.

113. (Previously presented) The compound of claim 4, wherein R₁ is alkyl substituted with sulfonamide.

114. (Previously presented) The compound of claim 113, wherein the sulfonamide is alkylsulfonamide.

115. (Previously presented) The compound of claim 114, wherein the sulfonamide is methylsulfonamide.

116. (Previously presented) A compound of claim 55, wherein R₁ is an alkyl group substituted with alkylsulfonamide, acetamide, alkyl urea, alkylamine, or dioxidoisothiazilidin-2-yl.

117. (Previously presented) The compound of claim 55, wherein R₁ is alkyl substituted with sulfonamide.

118. (Previously presented) The compound of claim 116, wherein the sulfonamide is alkylsulfonamide.

119. (Previously presented) The compound of claim 117, wherein the sulfonamide is methylsulfonamide.

120. (New) The compound or salt of claim 4, wherein

R₁ is -X-Y-R₄;

X is alkylene;

Y is -NHS(O)₂-;

R₄ is alkyl;

R₂ is alkoxyalkyl;

R₃ is -Z-Y-R₄;

Z is alkylene;

Y is -N(R₈)-Q-;

R₈ is H; Q is -C(R₆)-;

R₆ is =O; and

R₄ is alkyl substituted by mercapto.

121. (New) The compound or salt of claim 4 selected from the group consisting of:

